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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,065	11/16/2001	Daniel H. Howard	1875.1460001/RES/TCF	7548

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STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

NGUYEN, LEE

ART UNIT	PAPER NUMBER
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2682

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DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,065

Applicant(s)

HOWARD, DANIEL H.

Examiner

LEE NGUYEN

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13, 15-20 and 22-24 is/are rejected.
- 7) ☒ Claim(s) 6, 14 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The IDS filed 12/19/2002 has been considered and recorded in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 7-13, 15-20 and 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Schwartzman et al. (US 6,385,773).

Regarding claim 1, Schwartzman teaches a method for maintaining the integrity of a communication system, comprising: detecting an impairment on a communication channel of the communication system (col. 10, lines 15-55); characterizing said impairment as one of a plurality of impairments (col. 10, lines 56-65); and adapting operating parameters of

the communication system in accordance with said characterization of said impairment (col. 10, line 63 through col. 11, line 6).

Regarding claims 2 and 5, Schwartzman also teaches that said detecting comprises: performing a time domain to frequency domain conversion on a signal associated with the communication channel (FFT); aggregating a signal magnitude in the frequency domain (col. 9, lines 39-42); comparing said signal magnitude at a set of specified frequencies with threshold values each associated with a frequency from said set of specified frequencies (col. 9, lines 43-52); and reporting a list of frequencies from said set of specified frequencies for which said signal magnitude of an individual frequency exceeds a threshold value associated with said individual frequency or frequency range (col. 9, lines 53-62).

Regarding claims 3-4, Schwartzman also teaches 5MHz – 42MHz (col. 9, line 48).

Regarding claim 7, Schwartzman also teaches that said detecting comprises: examining data packets from the communication channel; determining whether said data packets contain data errors; and detecting a period with which data packets containing data errors arrive from the communication channel (col. 10, lines 45-65).

Regarding claim 8, Schwartzman also teaches that said adapting operating parameters comprises scheduling data transmissions at a frequency without said impairment (col. 10, line 65 through col. 11, line 6).

Regarding claim 9, Schwartzman teaches a system for maintaining the integrity a communication system comprising: an analog receiver 206 (fig. 2A) that receives analog data from the communication system; an analog-to-digital converter 202 coupled to said analog receiver that converts said analog data into digitized data;

A fast Fourier transform FFT processor 210 (fig. 2B) coupled to said analog-to-digital converter that receives said digitized data and performs a time domain to frequency domain conversion of said digitized data; and a processor 214 (fig. 2B) coupled to said FFT processor that examines said converted digitized data to detect an impairment on a communication channel of the communication system and classify said impairment as one of a plurality of impairment types (col. 10, lines 53-65).

Regarding claim 10, Schwartzman also teaches said processor detects said impairment by accumulating a magnitude of said digitized data over a period of time at one or more specified frequencies and examines

said specified frequencies to determine whether a threshold has been exceeded (col. 10, lines 45-65).

Regarding claims 11 and 12, the claims are interpreted and rejected for the same reason as set forth in claims 3-4).

Regarding claim 13, Schwartzman also teaches that said processor detects said impairment by comparing a frequency spectrum comprising said digitized data with one or more stored frequency spectra (col. 9, lines 53-65).

Regarding claim 15, Schwartzman also teaches: an upstream demodulator 206 (fig. 2B) coupled to said analog-to-digital converter that demodulates said digitized data into demodulated data; a media access controller (see from MAC Unit, fig. 2B) coupled to said upstream demodulator that extracts data packets from said demodulated data; and inherently a memory coupled to said media access controller that stores said data packets in said memory (see FPGA 210, col. 9, lines 32-41); wherein said processor identifies said impairment by examining said data packets stored in said memory to identify contiguous groups of data packets with errors and data packets without errors and computing a burst

period for said contiguous groups of data packets with errors (col. 9, line 55 through col. 10, line 4 and lines 53-65).

Regarding claim 16, Schwartzman also teaches that said processor schedules outgoing transmissions to not coincide with said burst period (col. 12, lines 18-28).

Regarding claim 17, Schwartzman also teaches that said processor schedules data transmissions at a frequency without said impairment (col. 10, line 65 through col. 11, line 3).

Regarding claim 18, the claim is interpreted and rejected for the same reason as set forth in claim 9.

Regarding claim 19, the claim is interpreted and rejected for the same reason as set forth in claim 10.

Regarding claim 20, the claim is interpreted and rejected for the same reason as set forth in claim 13.

Regarding claim 22, the claim is interpreted and rejected for the same reason as set forth in claim 15.

Regarding claim 23, the claim is interpreted and rejected for the same reason as set forth in claim 16.

Regarding claim 24, the claim is interpreted and rejected for the same reason as set forth in claim 17.

Allowable Subject Matter

4. Claims 6, 14, 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 6, the prior art of record fails to teach that said detecting comprises: performing a time domain to frequency domain conversion on a signal associated with the communication channel; computing a pulse width and a time between pulses for said signal within one or more frequency ranges; and detecting a periodic signal within said one or more frequency ranges.

Regarding claims 14, 21, the prior art of record fails to teach that said processor detects said impairment by examining a frequency band of said digitized data, computes a pulse width and a time between pulses for a DC waveform in said frequency band, and tracks an impulse train from said DC waveform.

Response to Arguments

5. Applicant's arguments filed 11/16/2004 have been fully considered but they are not persuasive.

In the remarks, Applicant contends that in Schwartzman, an impairment is detected by analyzing the bit error rate (BER) of a particular upstream frequency channel; however, the type of impairment is never determined.

In response, the examiner respectfully disagrees. Based upon the broadly recited claimed language: characterizing or classifying the impairment as one of a plurality of impairment types, Schwartzman still reads on the claimed limitation as followed: a detected BER of a particular frequency channel is compared to a BER threshold. If the detected BER is less than the threshold, the channel is considered good enough to use even though it is not perfect; which is classified as first type. If the detected BER is greater than the threshold, the channel is considered bad; which is classified as a second type. Therefore, based on the amended term, Schwartzman still anticipated the claimed limitation.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone number is (703)-308-5249. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN CHIN can be reached on (703) 308-6739.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 3/24/04
LEE NGUYEN
Primary Examiner
Art Unit 2682